SHIMADZU MEDICAL SYSTEMS

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SERVICE BULLETIN

TECHNICAL INFORMATION
X-RAY

NUMBER: **XR-200605**	DATE: 06/15/2006
TITLE: Mux-100D software v1.12 allows up to 3 sec with Canon CXDI-50G	
EQUIPMENT MODEL: **Mux-100D**	
SERIAL NUMBER AFFECTED: **all**	
PURPOSE: **Allows user to increase exposure time up to 3 sec**	
ESTIMATED TIME: **2 hours**	
TOOLS REQUIRED: **Field Tools**	
ORDER FORM INCLUDED☐ CONFIRMATION OF COMPLETION FORM INCLUDED☐ SERVICE REPORT INCLUDED☐	

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Issued by: **Sid Nget**

Checked by: **Randal Walker**

Approved by: **Randal Walker**

Introduction:
There are some requests from the field that require the Canon exposure time top be increased from a default maximum1 sec up to maximum 3 sec. The software version v1.12 of Mux-100D allows the user to increase the exposure time up to 3 sec on Canon CXDI-50G.

Part Required:

Mux-100D EEPROM M14, M17 ver 1.12

Procedure:

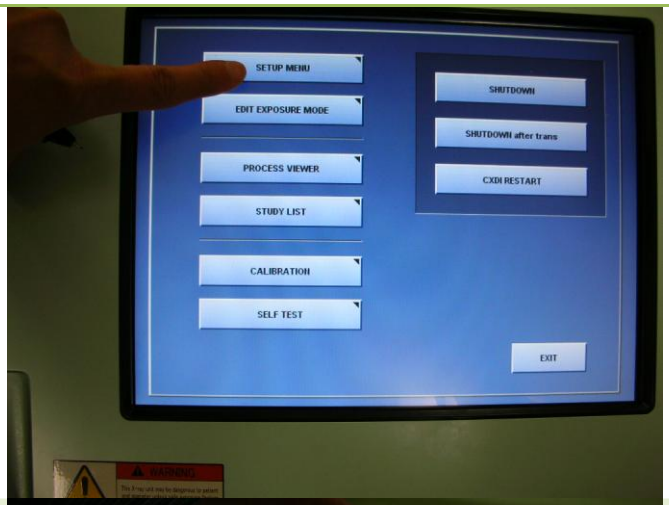
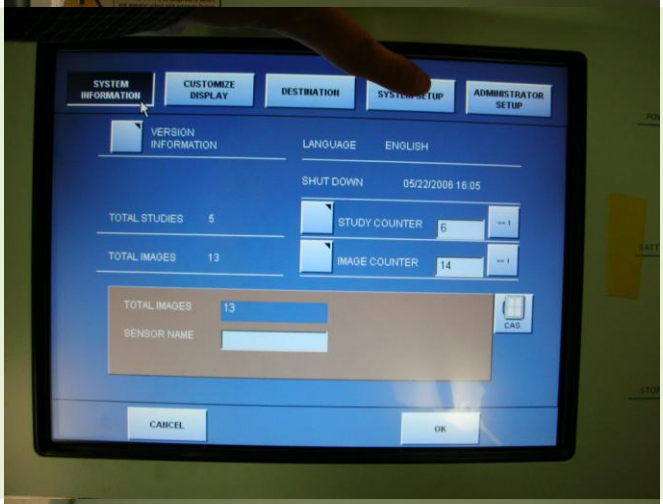
At Mux-100D side

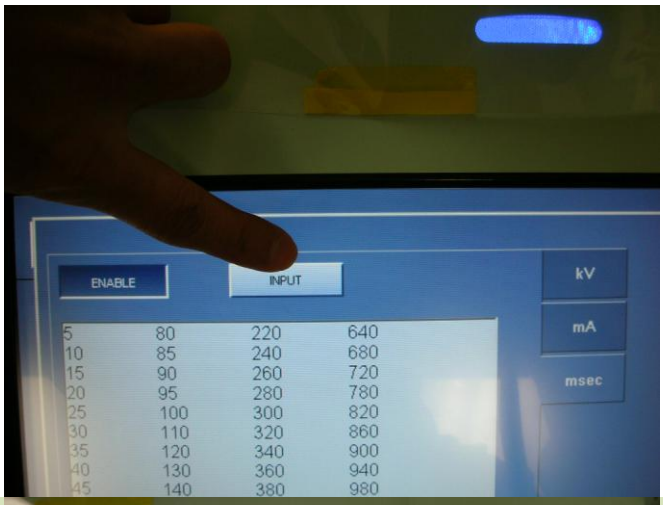
1. Back up the FVR (X-Ray tube calibration)
2. Replace new EEPROMs M14 and M17 on the NEXSC pcb.
3. Initialize the CPU by setting sw3-1= on, sw2-8=on. Wait for 40 sec to complete initialization and reset the dip switch back to off
4. Confirm that the battery code is set correctly according to battery type (new battery type 9Ah, code=4)
5. Re input FVR data
6. Recalibrate the battery detection circuit (Refer to Installation manual, appendix section)
7. Readjust time and date for error log tracking

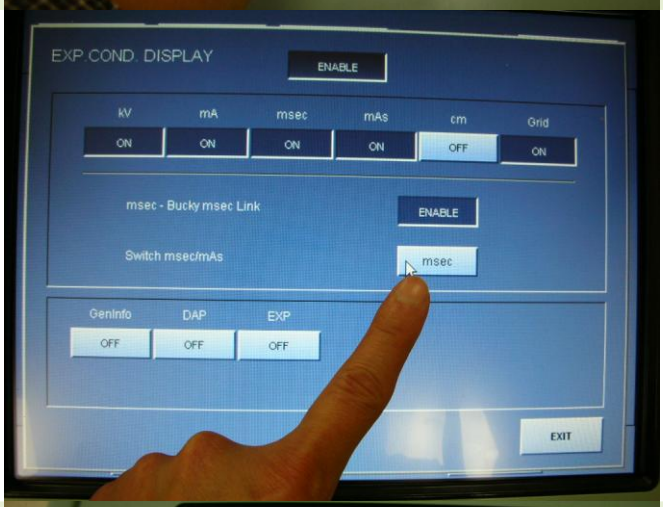
At Canon 50G side

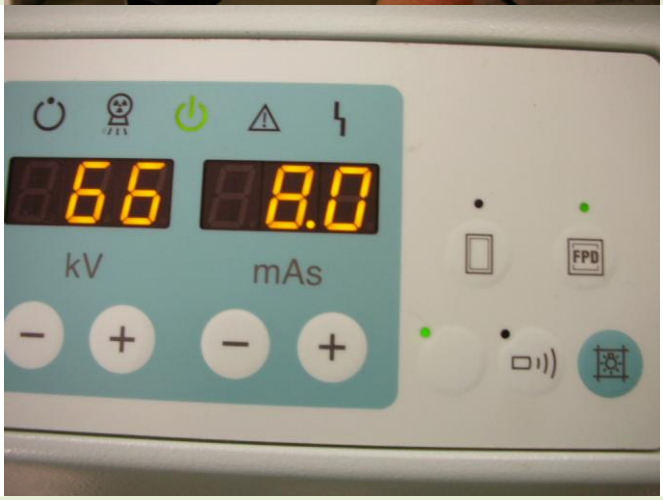
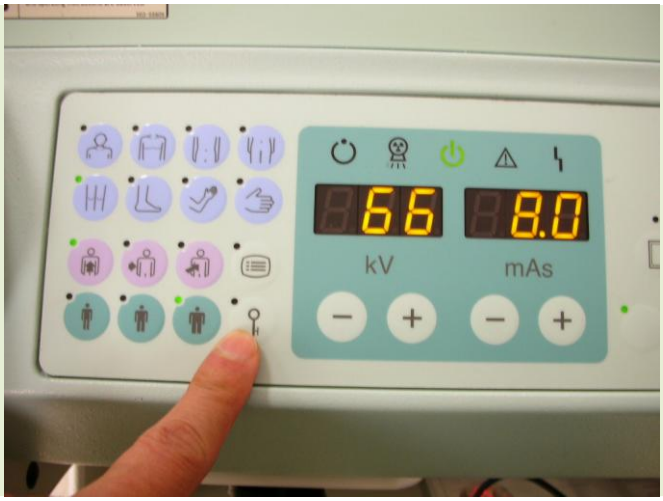
How to enable long exposure time (up to 3 second) on Mux-100D with Canon.

Step	Description	
1	Enable 3 sec in Canon Service mode as follows:	

2	Select Setup Menu	
3	Select System Setup	
4	Select Parameter table	

5	Enable “mS”	
6	Select input	
7	Input 3000 (means 3000 ms)	

8	Skip this step if “ms” is available. Otherwise, enable it as follows: Go to EXP COND DISPLAY and switch from mAS to mS		
9	Enable “mS”		
10	Assign a long time exposure to an APR by selecting a Canon APR that you like to assign a long exposure time		

11	Then push the blank key (on the left) of remote key and hold it until the green LED is lit. The green lit is to indicate that long exposure time is enable	
12	The Green LED now is lit	
13	Push and hold the registration key until APR Sel appears	

14	APR SEL appears		
15	Increase the exposure time by pushing the mAs + key		

Note: to get out of Long exposure time mode, select another APR that doesn't have long exposure time assigned to it. Or another way is to decease the exposure time to less than 100mAs, then re-toggle the long exposure time key (blank key on the left side of remote exposure key.